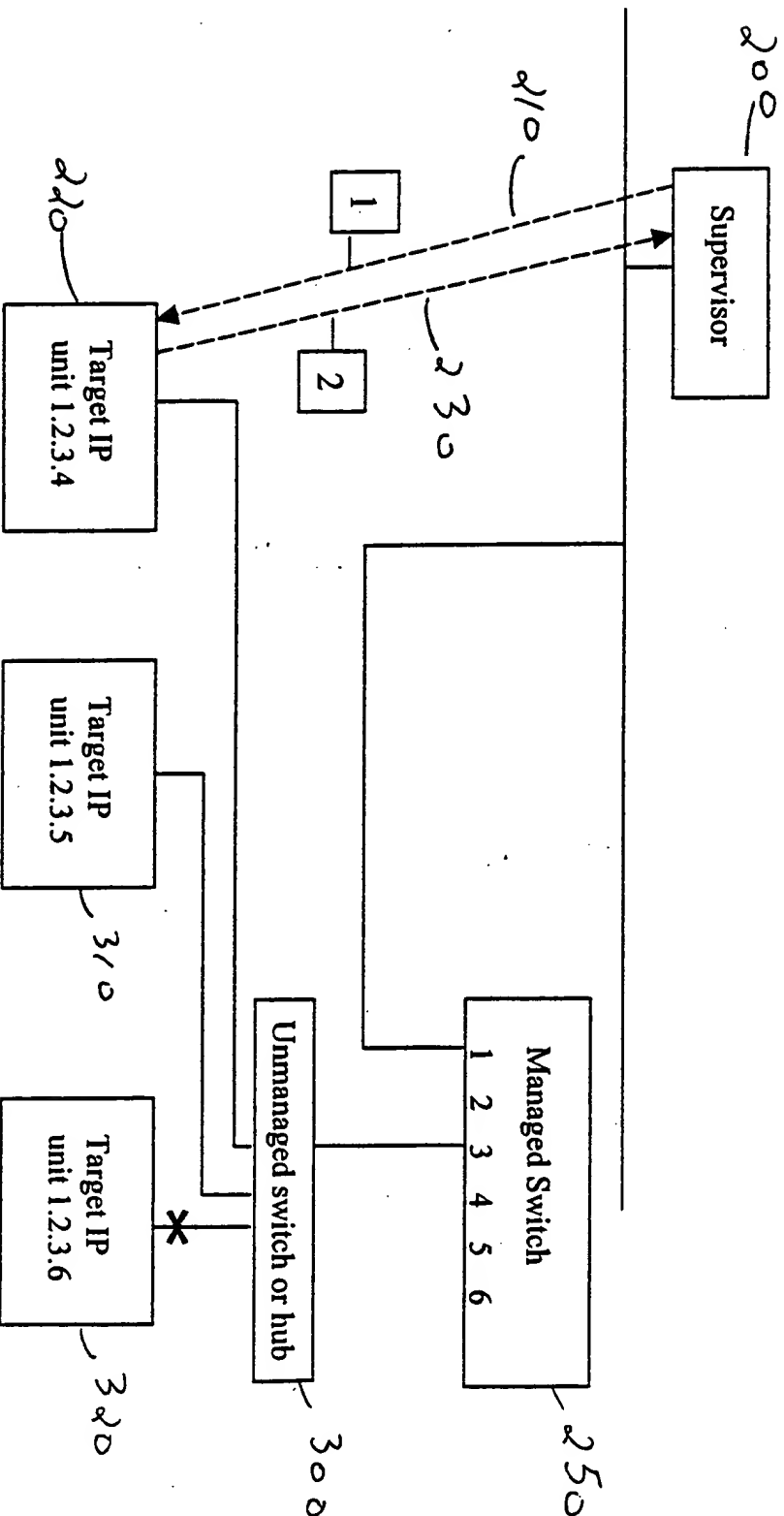Confirm presence sequence - interrogate target at periodic interval. Absence of response indicates target 'down'. A single target down in a canonical location becomes a reassignment candidate. Shared port scenario.

1. ARP Request - inquire MAC address of selected IP address 1.2.3.6 (unicast)
2. ARP response - MAC address of requested IP address is xxx
If no response is received, signify that the target IP unit is 'down'
If 1.2.3.6 is the ONLY unit on port 3 of the switch which is down, then it is a candidate for automatic reallocation. If any of the other units found on this port are also down, automatic reallocation will be suppressed.
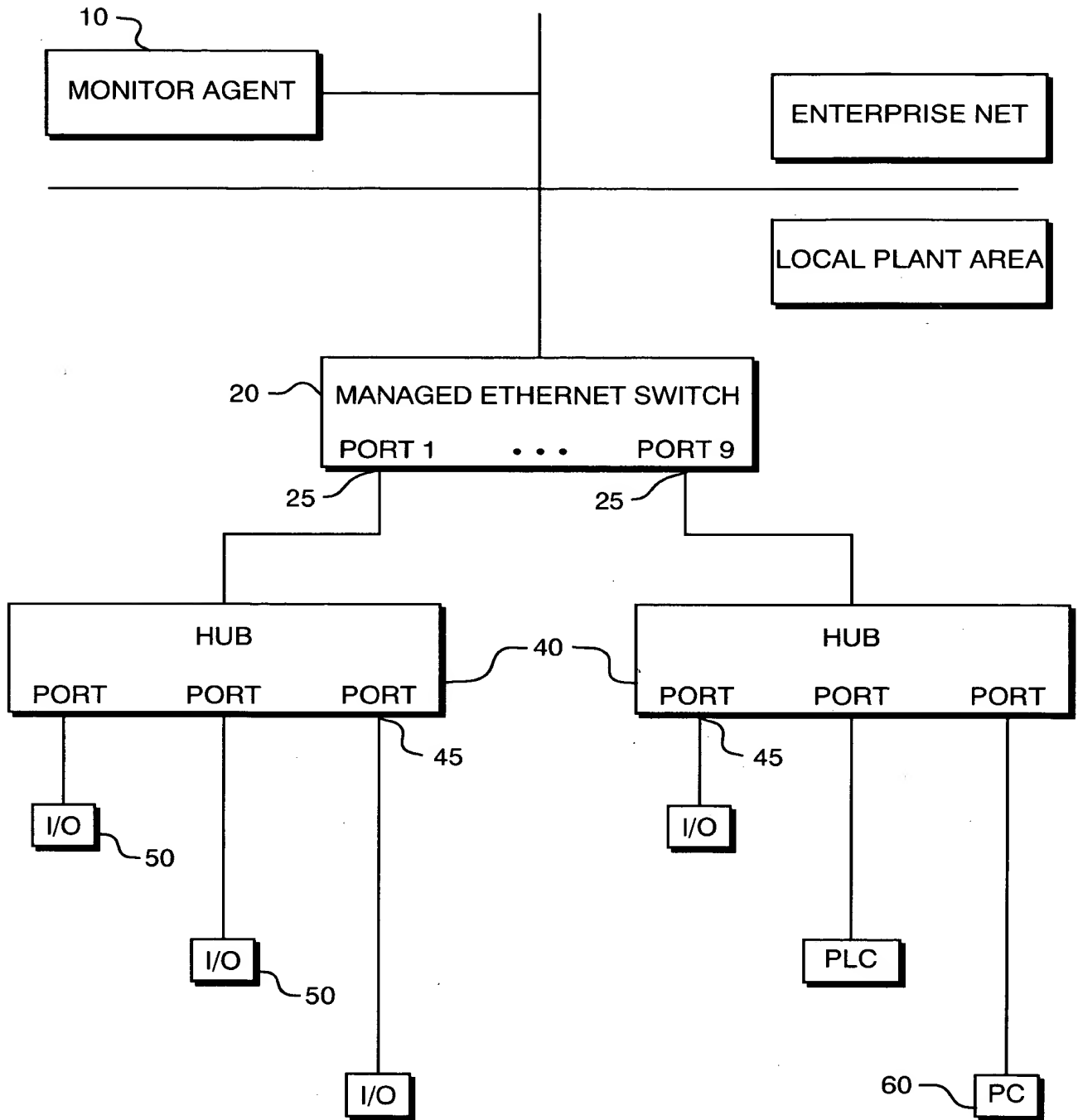
FIG 6

ORIGINAL SUBMITTAL

FIG. 1

FIG. 2

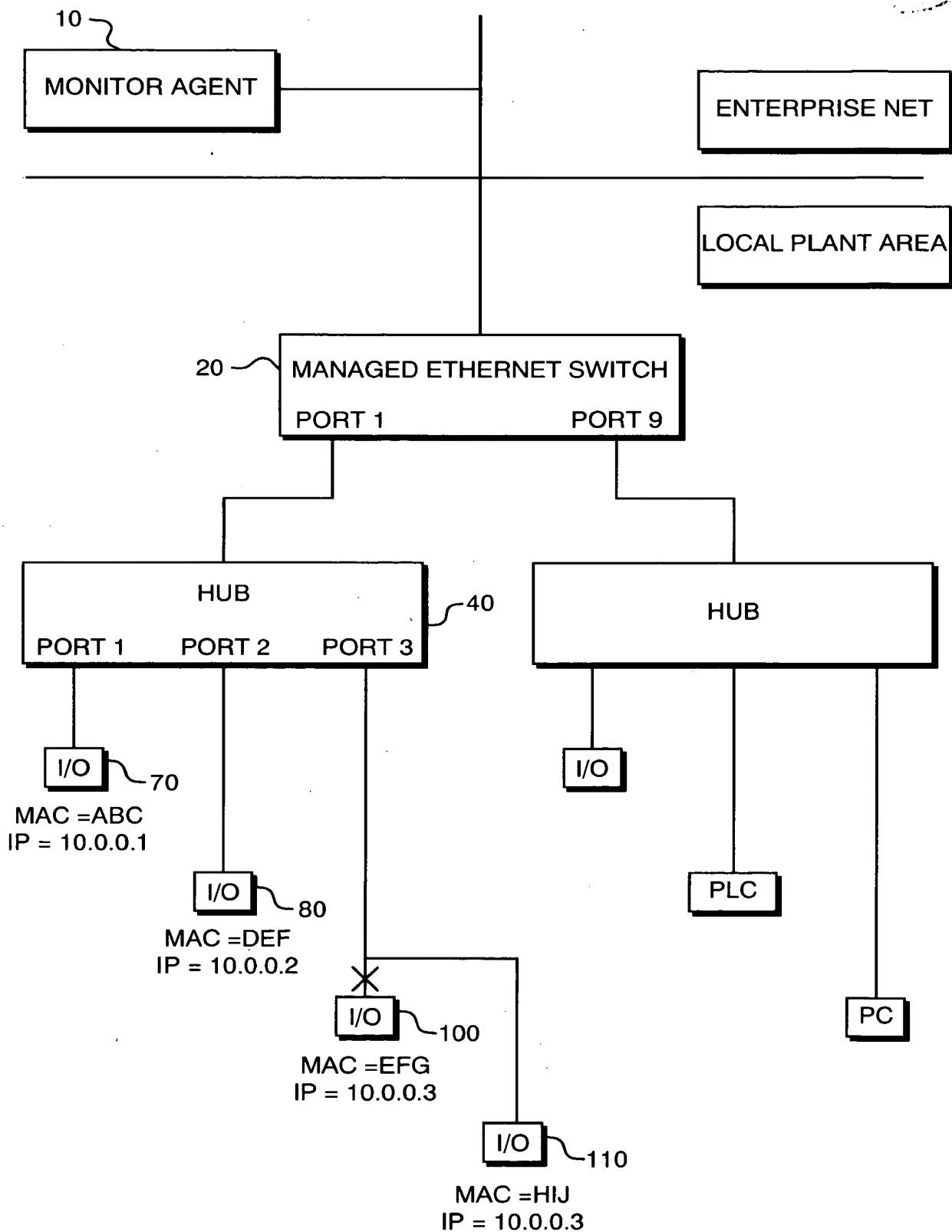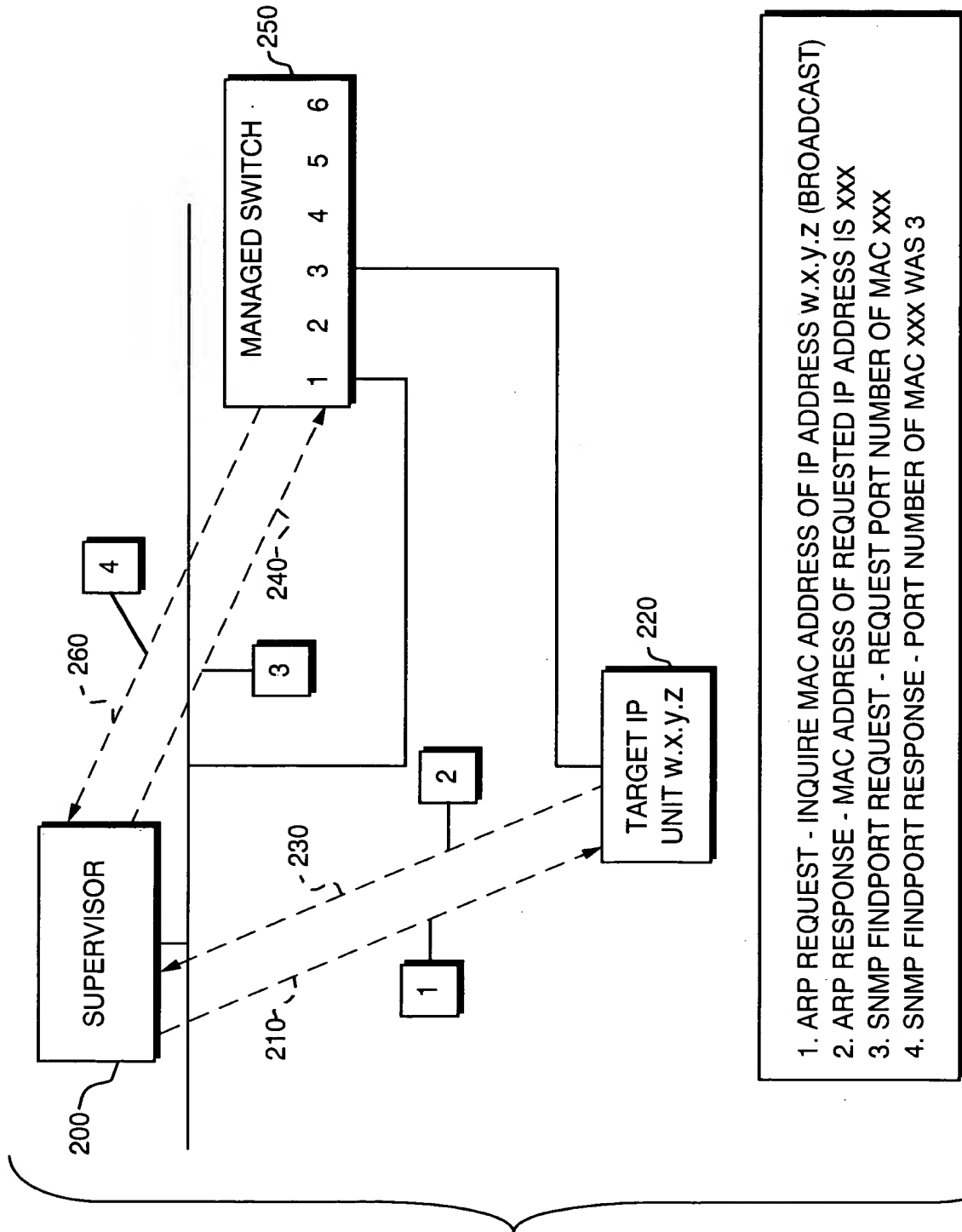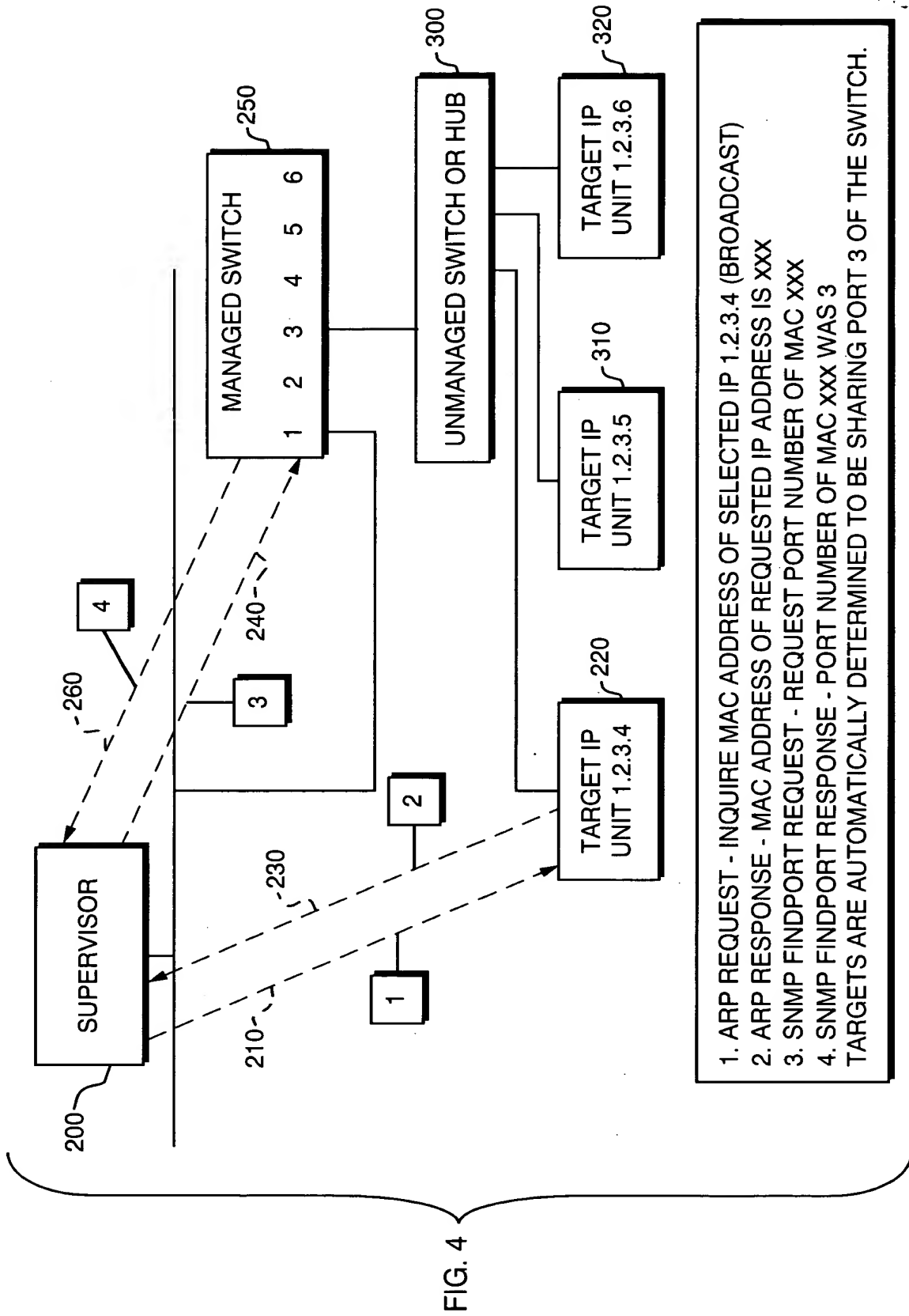1. ARP REQUEST - INQUIRE MAC ADDRESS OF IP ADDRESS w.x.y.z (BROADCAST)
2. ARP RESPONSE - MAC ADDRESS OF REQUESTED IP ADDRESS IS xxx
3. SNMP FINDPORT REQUEST - REQUEST PORT NUMBER OF MAC xxx
4. SNMP FINDPORT RESPONSE - PORT NUMBER OF MAC xxx WAS 3

FIG. 3

FIG. 4

1. ARP REQUEST - INQUIRE MAC ADDRESS OF SELECTED IP 1.2.3.4 (BROADCAST)
2. ARP RESPONSE - MAC ADDRESS OF REQUESTED IP ADDRESS IS xxx
3. SNMP FINDPORT REQUEST - REQUEST PORT NUMBER OF MAC xxx
4. SNMP FINDPORT RESPONSE - PORT NUMBER OF MAC xxx WAS 3
TARGETS ARE AUTOMATICALLY DETERMINED TO BE SHARING PORT 3 OF THE SWITCH.

SUPERVISOR 200

MANAGED SWITCH 250
1 2 3 4 5 6

UNMANAGED SWITCH OR HUB 300

TARGET IP UNIT 1.2.3.4 220

TARGET IP UNIT 1.2.3.5 310

TARGET IP UNIT 1.2.3.6 320

210
230
240
260

MANAGED SWITCH

1 2 3 4 5 6

SUPERVISOR

200

230

210

1

2

TARGET IP UNIT

220
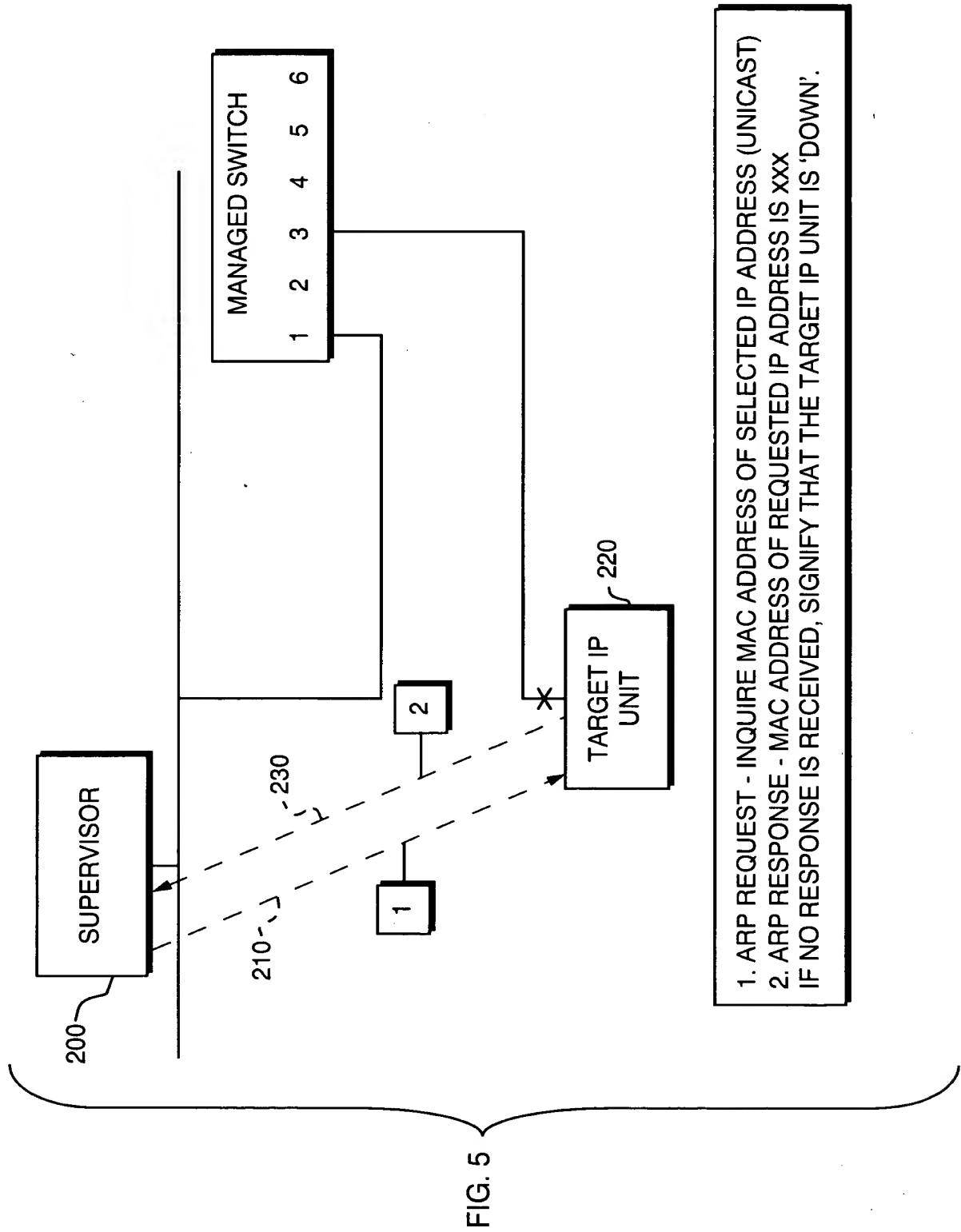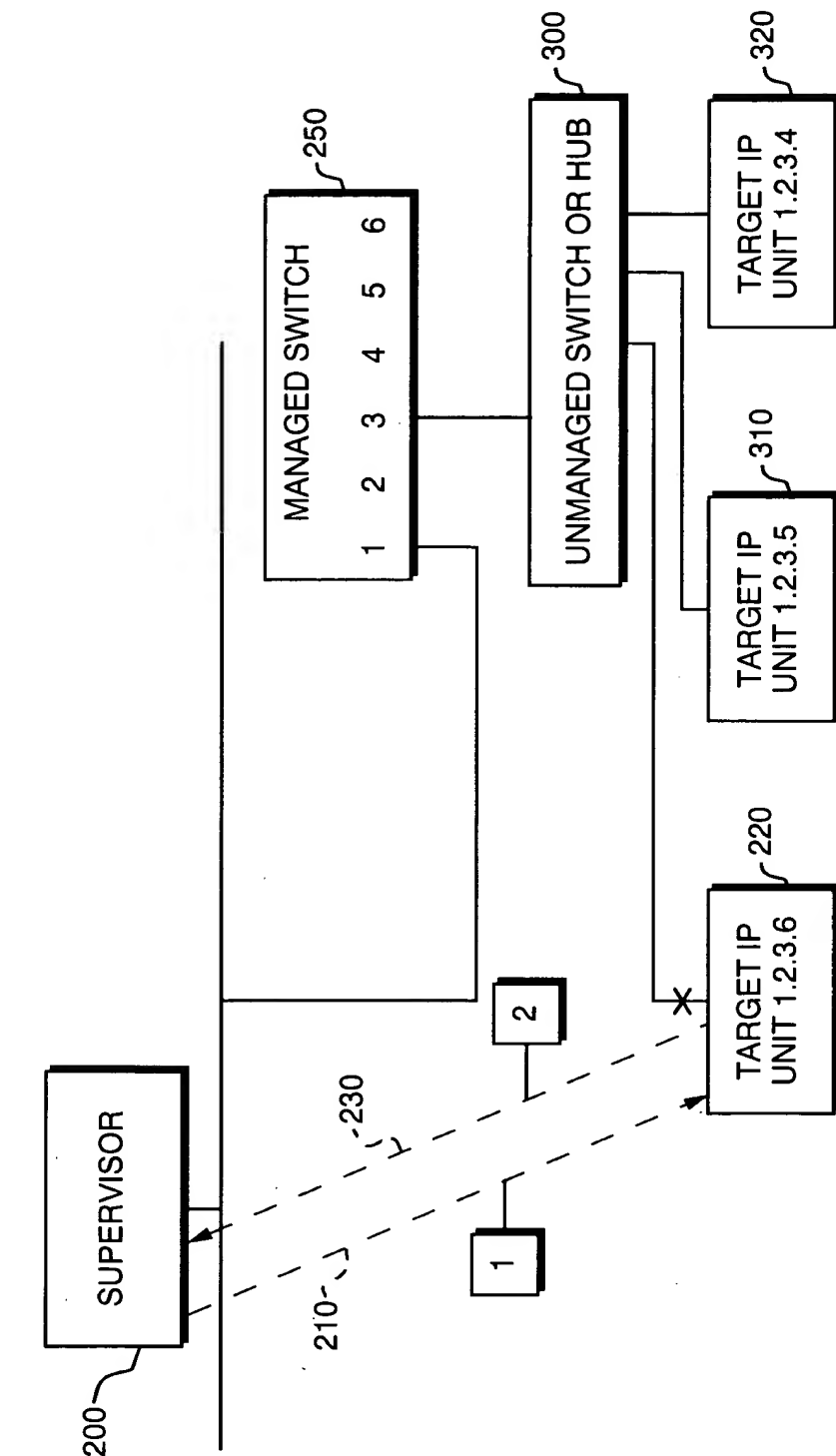
1. ARP REQUEST - INQUIRE MAC ADDRESS OF SELECTED IP ADDRESS (UNICAST)
2. ARP RESPONSE - MAC ADDRESS OF REQUESTED IP ADDRESS IS xxx
IF NO RESPONSE IS RECEIVED, SIGNIFY THAT THE TARGET IP UNIT IS 'DOWN'.

FIG. 5

MANAGED SWITCH 250

1 2 3 4 5 6

UNMANAGED SWITCH OR HUB 300

SUPERVISOR 200

210

230

2

1

TARGET IP UNIT 1.2.3.6 220

TARGET IP UNIT 1.2.3.5 310

TARGET IP UNIT 1.2.3.4 320

1. ARP REQUEST - INQUIRE MAC ADDRESS OF SELECTED IP ADDRESS 1.2.3.6 (UNICAST)
2. ARP RESPONSE - MAC ADDRESS OF REQUESTED IP ADDRESS IS xxx
IF NO RESPONSE IS RECEIVED, SIGNIFY THAT THE TARGET IP UNIT IS 'DOWN'
IF 1.2.3.6 IS THE ONLY UNIT ON PORT 3 OF THE SWITCH WHICH IS DOWN, THEN IT IS A CANDIDATE
FOR AUTOMATIC REALLOCATION. IF ANY OF THE OTHER UNITS FOUND ON THIS PORT ARE ALSO
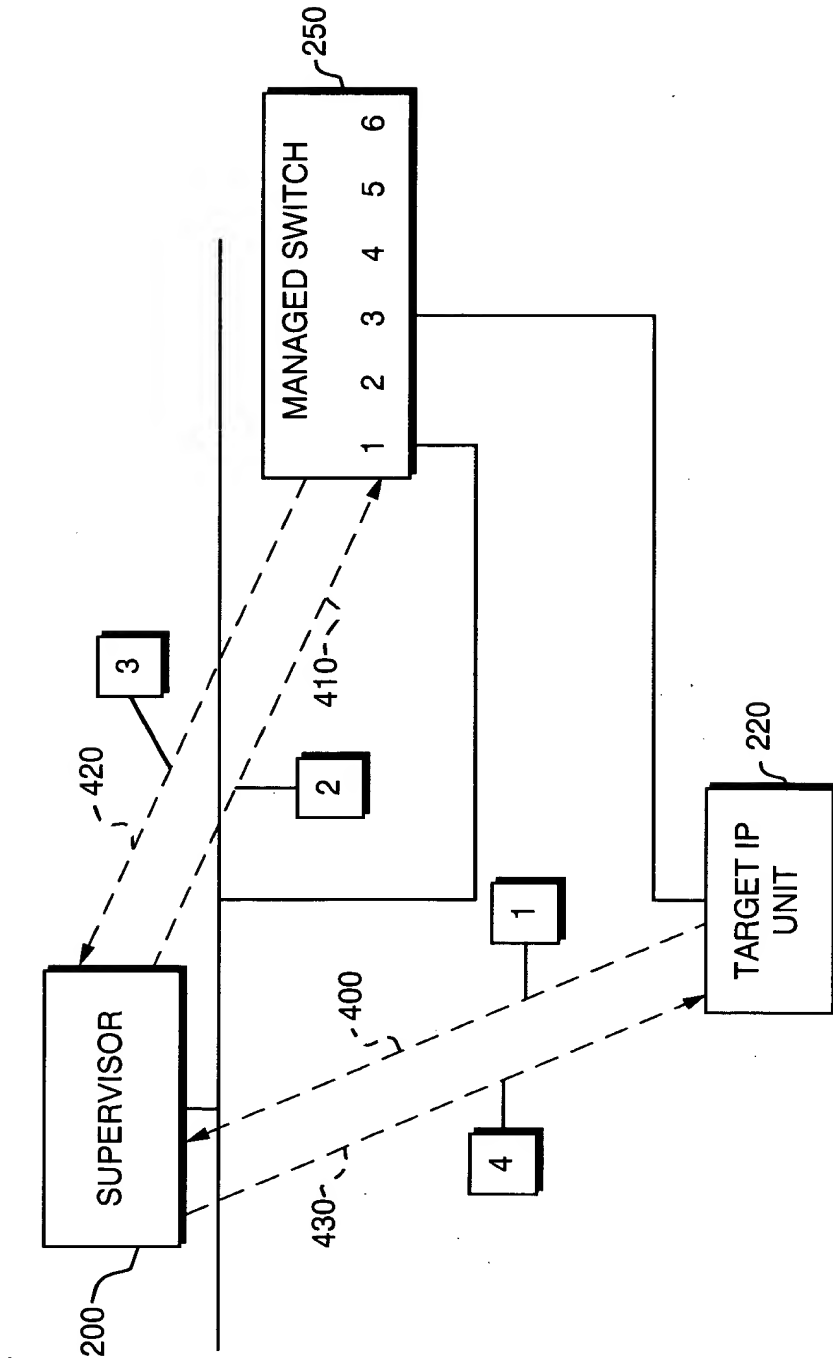DOWN, AUTOMATIC REALLOCATION WILL BE SUPPRESSED.

FIG. 6

FIG. 7

MANAGED SWITCH 250

1 2 3 4 5 6

SUPERVISOR 200

TARGET IP UNIT 220

1. BOOTP REQUEST - PLEASE SUPPLY IP ADDRESS FOR MAC xxx (BROADCAST)
2. SNMP FINDPORT REQUEST - REQUEST PORT NUMBER OF MAC xxx
3. SNMP FINDPORT RESPONSE - PORT NUMBER OF MAC xxx WAS 3 (MAC xxx ALREADY ASSOCIATED WITH IP AT THAT CANONICAL LOCATION - OK TO ASSIGN)
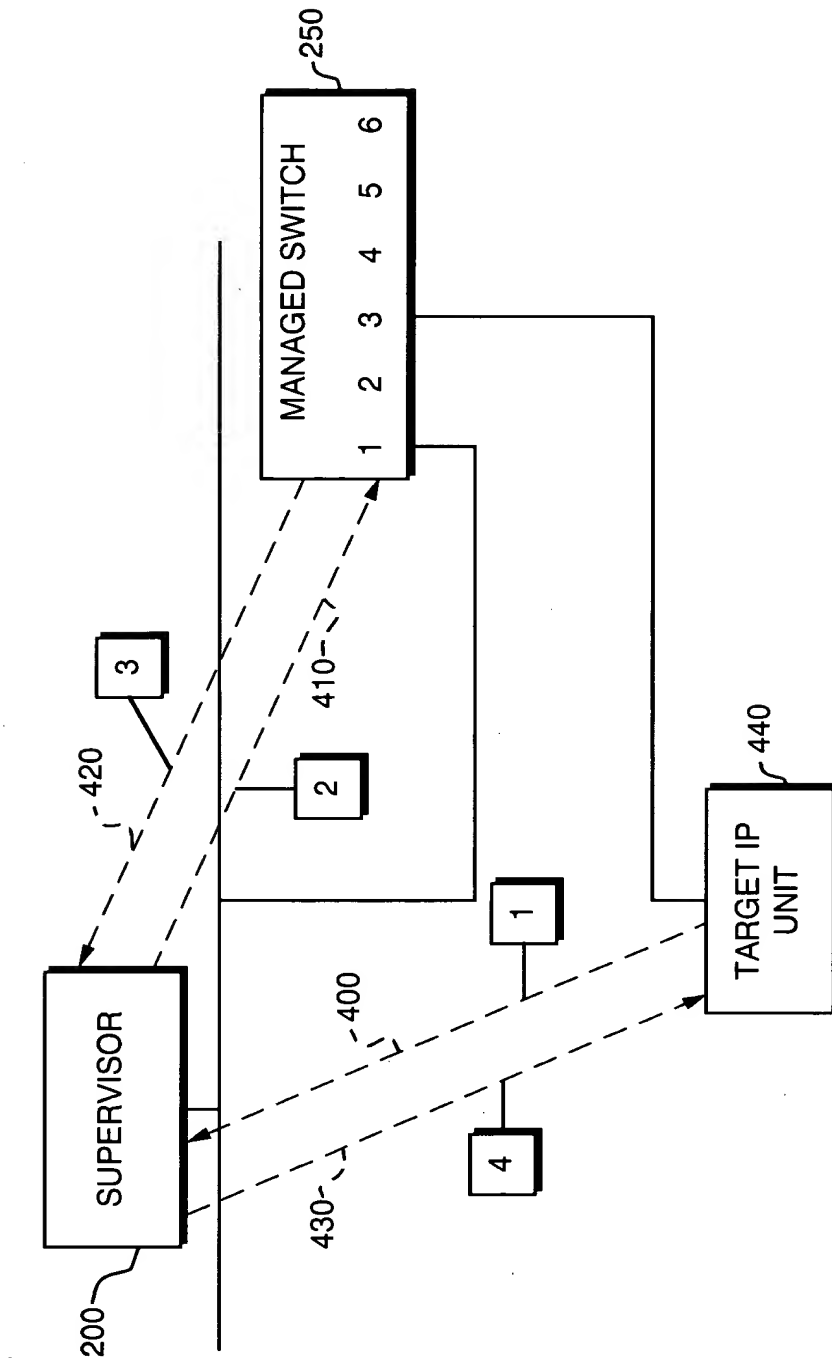4. BOOTP RESPONSE - IP ADDRESS FOR MAC xxx IS w.x.y.z

FIG. 8

MANAGED SWITCH ~250

1 2 3 4 5 6

SUPERVISOR

200

3

420

410

400

2

1

4

430

TARGET IP UNIT

440

1. BOOTP REQUEST - PLEASE SUPPLY IP ADDRESS FOR MAC xxx (BROADCAST)
2. SNMP FINDPORT REQUEST - REQUEST PORT NUMBER OF MAC xxx
3. SNMP FINDPORT RESPONSE - PORT NUMBER OF MAC xxx WAS 3
(MAC xxx NOT KNOWN. HOWEVER A SINGLE UNIT AT THAT LOCATION IS NOT
CURRENTLY RESPONDING. UPDATE BOOTP EQUIVALENCE TABLE TO RECORD NEW
IP ASSIGNMENT AND AUTHORIZE ASSIGNMENT)
4. BOOTP RESPONSE - IP ADDRESS FOR MAC xxx IS w.x.y.z